What is claimed is:

1.   A method for configuring a trigger sequence in a signal measurement

5   system having a graphical user interface, and memory, the method comprising

the steps of:

a)   storing a plurality of protocol definition text files in memory;

b)   parsing said protocol definition text files into a plurality of data

structures;

10   c)   forming a plurality of event definitions from said plurality of data

structures; and

d)   constructing a series of trigger primitives from said event definition.

2.   The method of claim 1, wherein the step of constructing a logic analyzer

trigger sequence comprises the steps of:

15   a)   constructing a bit sequence from said event definition; and

b)   constructing a series of trigger primitives from said bit sequence.

3.   The method of claim 2, further comprising the step of optimizing said bit

sequence to identify and count multiple consecutive occurrences of identical bit

patterns.

20   4.   The method of claim 3, wherein any identification of multiple consecutive

occurrences of identical bit patterns results in a single trigger primitive for said

multiple occurrence.

5.   The method of claim 1, wherein each of said data structures comprises protocol information including at least a field name, a field size, a field type and a favorite data format for display.

6.   The method of claim 1, wherein each of said plurality of event definitions comprises two blocks of data.

7.   The method of claim 5, wherein said two blocks of data comprise a data bit block and a "don't care" mask block.

8.   The method of claim 1, wherein said step of creating a logic analyzer trigger sequence from said event definition comprises the steps of:

a)   graphically representing selectable protocol layer icons and a protocol profile window;

b)   displaying protocol field information corresponding to said layer of protocol information in response to graphical selection of one of said graphically selectable protocol layer icons, wherein said protocol field information is comprised of a protocol descriptors menu and a protocol editors menu;

c)   generating a trigger sequence in response to operator input of data in said protocol editors menu.

9.   A method for configuring a trigger sequence in a signal measurement system having a graphical user interface, a software trigger mechanism and memory, the method comprising the steps of:

a)   storing a plurality of protocol definition text files in memory;

b)   parsing said protocol definition text files into a plurality of data structures;

c)   forming a plurality of event definitions from said plurality of data
structures;

d)   graphically representing selectable protocol layer icons and a
protocol profile window;

5   e)   displaying protocol field information corresponding to said layer of
protocol information in response to graphical selection of one of said graphically
selectable protocol layer icons, wherein said protocol field information is
comprised of a least one user editable field;

f)   generating a bit sequence in response to operator input of data in
10   at least one of said user editable fields; and

g)   constructing a series of trigger primitives from said bit sequence.

10.   The method of claim 9, wherein each of said plurality of event definitions
comprises two blocks of data.

11.   The method of claim 10, wherein said two blocks of data comprise a data
15   bit block and a "don't care" mask block.

12.   The method of claim 11, further comprising the step of optimizing said bit
sequence to identify and count multiple repetitive occurrences of identical bit
patterns.

13.   The method of claim 12, wherein a single trigger primitive results from any
20   occurrence of multiple repetitive identical bit patterns.

14.   A system for configuring a trigger sequence in a signal measurement
system that acquires signal data in accordance with a trigger definition, the signal

measurement system having a graphical user interface, a processor and a

memory, the system comprising:

    a)   a plurality of event definitions stored in the memory;

    b)   an event editor, said event editor comprising a plurality of

graphically selectable protocol layer icons and a protocol profile window

corresponding to said protocol layer icons, wherein said protocol profile window

comprises at least one editable menu and wherein user entries in at least one of

said editable menu causes said processor to translate said event definitions into

a bit sequence.

15.   The system of claim 14, wherein a series of trigger primitives is

constructed from said bit sequence.

16.   The system of claim 15, wherein said bit sequence comprises a series of

bit patterns.

17.   The system of claim 16, further comprising an optimization routine which

identifies and counts occurrences of multiple repetitive bit patterns in said bit

sequence.

18.   The system of claim 17, wherein a single trigger primitive is constructed

from any occurrence of multiple repetitive bit patterns.

19.   The system of claim 18, wherein said event definitions comprise two

blocks of data.

20.   The system of claim 19, wherein said two blocks of data comprise a data

bit block and a don's care mask block.

21.   The system of claim 14, wherein said graphically selectable protocol layer icons represent layers of protocol information accessed over communications data buses with said signal measurement system.

22.   The system of claim 14, wherein said protocol profile window further comprises a descriptor menu graphically associated with said at least one editable menu.

23.   A method for configuring a trigger sequence in a signal measurement system having a graphical user interface, and memory, the method comprising the steps of:

a)   storing a plurality of protocol definition text files in memory;

b)   parsing said protocol definition text files into a plurality of data structures, wherein each of said data structures comprises protocol information including at least a field name, a field size, a field type and a favorite data format for display;

c)   forming a plurality of event definitions from said plurality of data structures; and

d)   constructing a bit sequence from said event definition;

e)   optimizing said bit sequence to identify and count multiple consecutive occurrences of identical bit patterns; and

f)   constructing a series of trigger primitives from said bit sequence, wherein any identification of multiple consecutive occurrences of identical bit patterns by said optimizing results in a single trigger primitive for said multiple occurrence.

24.   The method of claim 23, wherein each of said plurality of event definitions comprises two blocks of data.

25.   The method of claim 24, wherein said two blocks of data comprise a data bit block and a "don't care" mask block.

5   26.   The method of claim 23, wherein said step of creating a logic analyzer trigger sequence from said event definition comprises the steps of:

        a)   graphically representing selectable protocol layer icons and a protocol profile window;

        b)   displaying protocol field information corresponding to said layer of
10   protocol information in response to graphical selection of one of said graphically selectable protocol layer icons, wherein said protocol field information is comprised of a protocol descriptors menu and a protocol editors menu;

        c)   generating a series of trigger primitives in response to operator input of data in said protocol editors menu.